

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A joy-dial for providing input signals to a device, said joy-dial ~~having comprising:~~
 - a first and a second x-axis input_{1,2};
 - a first and a second y-axis input_{1,2};
 - a first and a second directional input_{1,2};
 - a joy pad_{1,2};
 - an elastically deformable diaphragm located below the joy pad corresponding to each of the x-axis and y-axis inputs_{1,2} and
 - a contact located below and associated with each of the diaphragms arranged so that pressure applied to the joy pad at one of the x-axis or y-axis inputs results in deformation of the corresponding diaphragm and closure of the associated contact,

wherein said first and second directional inputs being operable by rotating applying the joy pad in a respective clockwisefirst and anti-clockwise second rotational movement to the joy paddirection about a z-axis.
2. (Previously amended) A joy-dial according to claim 1, further comprising at least one diagonal input.
3. (Previously amended) A joy-dial according to claim 2 wherein the at least one diagonal input having a corresponding diagonal input position defined between one of the first y-axis and the second x-axis input, the second x-axis input the second y-axis input, the second y-axis input and the first x-axis input and the first x-axis input and the first y-axis input.

4. (Previously amended) A joy-dial according to claim 3 wherein pressure applied to the corresponding diagonal input position on the joy pad results in deformation of the associated diaphragms of the adjacent x-axis and y-axis inputs and closure of their associated contacts.
5. (Cancelled)
6. (Cancelled)
7. (Currently amended) A joy-dial according to claim 1 further comprising:
a first and a second directional contact located below the joy pad and between the contacts associated with the x-axis and the y-axis inputs;
an engagement means located below the joy pad and fixedly attached to the underside thereof, which-wherein is engaged during rotation of the joy pad, the engagement means and is arranged to push against a biasing means so as to close the first and second directional contacts~~operate the first and second directional inputs.~~
8. (Original) A joy-dial according to claim 7 wherein the biasing means restores the joy pad to a home position in which none of the contacts are closed once pressure applied by the user is removed.
9. (Cancelled)
10. (Currently amended) A joy-dial according to claim 1 wherein the joy pad can be rotated substantially 45° in either athe clockwise or anti-clockwise direction about athe z-axis.
11. (Previously amended) A joy-dial according to claim 1 further comprising a base arranged for attachment to an information device or to a printed circuit board of a device and a cage means arranged to be connected to said base and to locate the joy pad there between.

12. (Currently amended) A joy-dial according to claim 11 wherein ~~the~~a biasing means is located between the joy pad and an upper surface of the base.
13. (Original) A joy-dial according to claim 1 wherein the joy pad is marked to indicate the positioning of the input positions.
14. (Original) A joy-dial according to claim 1 wherein the joy pad has an upper surface which is patterned to enhance grip to the joy pad by the user's finger.
15. (Original) A joy-dial according to claim 1 wherein the joy pad is mounted for pivotal movement on a pivot means.
16. (Original) A joy-dial according to claim 15 wherein the joy pad includes an engaging member on an underside, said engaging member being arranged to engage within a groove formed in an upper surface of said pivot means.
17. (Original) A joy-dial according to claim 16 wherein the engaging member is located in a hollow or aperture formed in the underside of the joy pad.
18. (Original) A joy-dial according to claim 16 wherein the groove is annular so as to enable the joy pad to turn in a clockwise or anti-clockwise direction.
19. (Original) A joy-dial according to claim 1 wherein the joy pad includes at least one thumb rail arranged to aid the user to rotate the joy pad.
20. (Currently amended) An information device having at least one joy-dial, said joy-dial being arranged to provide input signals to the device, said joy-dial ~~having~~ comprising:
- a first and a second x-axis input;_i
 - a first and a second y-axis input;_i
 - a first and second directional input;_i
 - a joy pad;_i

an elastically deformable diaphragm located below the joy pad corresponding to each of the x-axis and y-axis inputs; and

a contact located below and associated with each of the diaphragms arranged so that pressure applied to the joy pad at one of the x-axis or a y-axis inputs results in deformation of the corresponding diaphragm and closure of the associated contact,

wherein said first and second directional inputs being operable by rotating applying the joy pad in a respective clockwise first and anti-clockwise second rotational movement to the joy pad direction about a z-axis.

21. (Previously amended) A device according to claim 20 further comprising a microprocessor or the like which is arranged to detect closure of any of the contacts and to interpret such as a logical state change.

22. (Previously amended) A device according to claim 20 further comprising an operating system which is arranged to be informed by the microprocessor of a logical state change and to in turn inform a software application which interprets the information for executing a corresponding or an associated action.

23. (new) A joy-dial for providing input signals to a device, said joy-dial comprising:

a first and a second x-axis input;

a first and a second y-axis input;

a first and a second directional input;

a central input;

a joy pad;

an elastically deformable diaphragm located below the joy pad corresponding to each of the x-axis and y-axis inputs; and

a contact located below and associated with each of the diaphragms arranged so that pressure applied to the joy pad at one of the x-axis or y-axis inputs results in deformation of the corresponding diaphragm and closure of the associated contact.

wherein said first and second directional inputs being operable by rotating the joy pad in a respective clockwise and anti-clockwise direction about a z-axis, and

wherein pressure applied to the central input on the joy pad results in deformation of all the diaphragms located below the x-axis and y-axis inputs and closures of their associated contacts.